King Abdulaziz University | First Exam - Math 110

Rabigh College of Science and Arts | Date: 6 /2 /1438

Department of Mathematics | Time: 90 minutes

Name……………………………………… ID:………...................... **A**

Choose the correct answer of the following questions:

(1)	The solution set of the inequality $-3x+5<-13$ is			
	(a) $(-\infty,6)$	(b) $(6,\infty)$	(c) $[6,\infty)$	(d) $(-\infty,6]$

(2)	The solution set of the inequality $11>5-3x\geq-13$ is			
	(a) $(-2,6)$	(b) $[-2,6)$	(c) $[-2,6]$	(d) $(-2,6]$

(3)	(3) $\lvert 2-\pi\rvert=$			
	(a) $2-\pi$	(b) $\pi-2$	(c) $-2-\pi$	(d) $2+\pi$

(4)	The solution set of the inequality $\lvert x-3\rvert\geq4$ is			
	(a) $(-1,7)$	(b) $[-1,7]$	(c) $(-\infty,-1]\cup[7,\infty)$	(d) $(-\infty,-1]\cup(7,\infty)$

(5)	The equation of the line passes through the point (-3,0) with slope 5 is			
	(a) $y=5x-15$	(b) $y=5x+15$	(c) $y=5x+3$	(d) $y=5x-3$

(6)	The equation of the line passing through (1,0) and parallel to the line $2x-3y=1$ is			
	(a) $2x-3y=2$	(b) $2x+3y=2$	(c) $-3x+2y=2$	(d) $3x-2y=-1$

(7)	The equation of the line passes through (2,3) and (1,4) is			
	(a) $x-y=5$	(b) $x+y=-5$	(c) $-x+y=5$	(d) $x+y=5$

(8)	The slope m and the y – intercept b of the line $4x+2y+8=0$ are			
	(a) $m=-2, b=-4$	(b) $m=5, b=3$	(c) $m=-5, b=3$	(d) $m=2, b=4$

(9)	The equation for the line passes through (1,4) and perpendicular to the line $2x-6y+5=0$ is			
	(a) $3x-y=5$	(b) $x+3y=7$	(c) $3x+y=7$	(d) $x+y=3$

(10)	$\frac{5\pi}{12}=$			
	(a) 120°	(b) 150°	(c) 300°	(d) 75°

(11)	If a circle has radius $\frac{2\pi}{3}$ cm, the angel is subtended by an arc of 5 cm is			
	(a) $\frac{15}{2\pi}$	(b) $\frac{10\pi}{3}$	(c) $\frac{\pi}{2}$	(d) $\frac{2\pi}{15}$

(12)	$\cot\theta.\sec\theta=$			
	(a) $\cos\theta$	(b) $\tan\theta$	(c) $\sec\theta$	(d) $\csc\theta$

(13)	If $\cos\theta=\frac{4}{5}, 0\le\theta\le\frac{\pi}{2}$ then $\sin\theta=$			
	(a) $\frac{3}{5}$	(b) $-\frac{3}{5}$	(c) $\frac{5}{3}$	(d) $-\frac{5}{3}$

(14)	If the function f defined by $f(x)=\begin{cases}2x^2-1 & if\ \ x\ge 0\\ 1-x & if\ \ x<0\end{cases}$, then $f(0)=$			
	(a) 1	(b) 0	(c) -1	(d) 3

(15)	The domain of the function $f(x)=\frac{2x}{x(x+3)}$ is			
	(a) $\mathbb{R}$	(b) $\mathbb{R}-\{3\}$	(c) $\mathbb{R}-\{0,3\}$	(d) $\mathbb{R}-\{0,-3\}$

(16)	The function $g(x)=\left(\frac{2}{3}\right)^x$ is classified as			
	(a) Polynomial	(b) Exponential	(c) Power	(d) Rational

(17)	The function $f(x)=x$ is			
	(a) Even	(b) Odd	(c) Neither even nor odd	(d) Even and odd

(18)	If the distance between the points $P_1\ (3, a)$ and $P_2(-1,2)$ equals 5 then a =		
(a) 1 ,-5	(b) -1,5	(c) -9 ,-5	(d) 9,-5

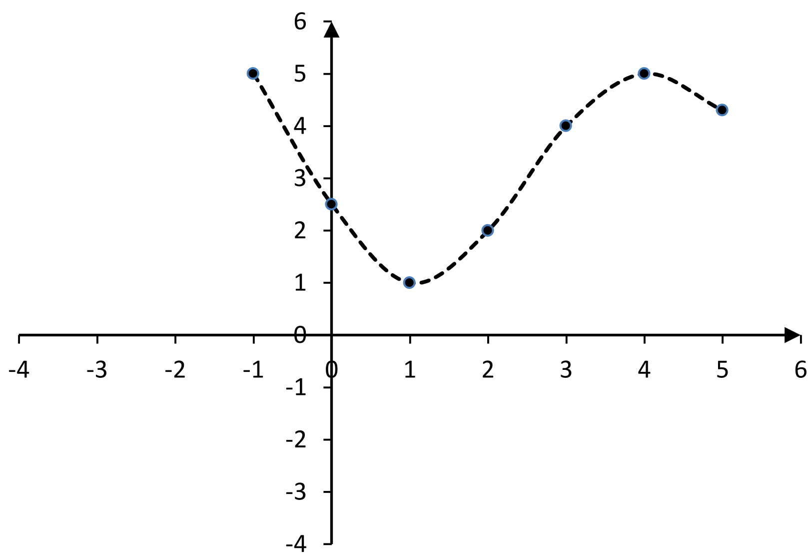
(19)	If $f(x) = x$ and $g(x) = 3x^2 + x$, then $\left(\frac{g}{f}\right)(x) =$		
(a) $3x+1$	(b) $\frac{1}{3x+1}$	(c) $\frac{x}{3x^2+1}$	(d) $3x-1$

(20)	If $f(x) = \sqrt{x}$ and $g(x) = \cos x$, then $(g \circ f)(x) =$		
(a) $\cos\sqrt{x}$	(b) $\sqrt{\cos x}$	(c) $\sqrt{x}\cos x$	(d) $\cos x$

(21)	The graph of $y = e^x$ is shifted up 6 units and right 2 units, the equation for the new graph is		
(a) $y = e^{x+6} - 2$	(b) $y = e^{x-2} - 6$	(c) $y = e^{x+2} + 6$	(d) $y = e^{x-2} + 6$

(22)	If the graph of the function $y = \sqrt{x}$ is reflected about the y –axis, the equation for the new graph is		
(a) $y = \sqrt{x} + 1$	(b) $y = \sqrt{-x}$	(c) $y = -\sqrt{x}$	(d) $y = \sqrt{x} - 1$

Use the figure below to solve 23, 24 and 25



(23)	The domain of the function is			
	(a) $[-1,5]$	(b) $(-1,\infty)$	(c) $(0,5]$	(d) $[-1,1]$

(24)	The range of the function is			
	(a) $(0,\infty)$	(b) $(1,6)$	(c) $(0,3)$	(d) $[1,5]$

(25)	$f(2)=$			
	(a) 1	(b) 0	(c) 2	(d) 3

(26)	The domain of the function $y=2^x$ is			
	(a) $[0,\infty)$	(b) $(-\infty,\infty)$	(c) $(1,\infty)$	(d) $(0,\infty)$

(27)	If the graph of $y=x^2$ is compressed vertically by a factor of 3, the equation for the new graph is			
	(a) $y=3x^2$	(b) $y=\frac{1}{3}x^2$	(c) $y=x^2-3$	(d) $y=9x^2$

(28)	The range of the function $y=\sin x$ is			
	(a) $(-1,1)$	(b) $(-\infty,\infty)$	(c) $(1,\infty)$	(d) $[-1,1]$

(29)	The inverse of the function of $f(x)=3-\frac{x}{2}$ is			
	(a) $f^{-1}(x)=6-2x$	(b) $f^{-1}(x)=2x-6$	(c) $f^{-1}(x)=3-2x$	(d) $f^{-1}(x)=\frac{2}{6-x}$

(30)	The solution for the equation $\ln(5x-2x)=-3$ is			
	(a) $\frac{5-e^{-3}}{2}$	(b) $5-e^{-3}$	(c) $\frac{5-e^{3}}{2}$	(d) $5+e^{3}$